

County Borough



of Blackburn.

ANNUAL REPORT

UPON THE

Health of Blackburn

For the Year 1916.


BY

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MEDICAL OFFICER OF HEALTH, MEDICAL SUPERINTENDENT
OF THE INFECTIOUS DISEASES HOSPITALS, CHIEF
EXECUTIVE TUBERCULOSIS OFFICER AND SCHOOL MEDICAL
OFFICER.

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„ IV.—Deaths under 1 Year of Age during 1916.

Statistical Summary for 1916.



Area of Borough	7,418 acres.
Population at Census, 1911	133,052
Estimated total Population 1916	131,722
Estimated Civil* Population 1916	121,066
Birth-Rate per 1,000 living, calculated on total Population for 1916	15.6
Death-Rate per 1,000 living, calculated on the Civil Population for 1916	14.6
Infant Mortality per 1,000 Births	121.0
Total Occupied Houses at 1911 Census	30,648

* Not including members of His Majesty's Forces.

Staff of the Health Department

Medical Officer of Health, School Medical Officer and Chief Executive Tuberculosis Officer.

J. COOTE HIBBERT, M.D. (Lond.), D.P.H.

Assistant Medical Officer of Health and Tuberculosis Officer.

†A. J. EWING, M.A., M.B., Ch.B., D.P.H.

School Medical Inspector and Assistant to Medical Officer of Health.

W. A. B. YOUNG, M.D. (Vict.), D.P.H. (Acting Tuberculosis Officer).

Veterinary Inspector and Chief Meat Inspector.

†E. J. BURNDRED, M.R.C.V.S., D.V.H.

Assistant Meat Inspector.

*W. H. GOODMAN.

Chief Sanitary Inspector.

*JAMES GRAHAM.

Special Inspector for Food and Drugs, &c.

*O. H. WILLIAMS.

Special Inspector for Factories and Workshops.

†*H. KENYON.

Special Inspector for Drainage Work.

*A. LEES.

District Inspectors.

†*J. W. MARGINSON.

*W. WALNE.

*W. E. GREENWOOD.

†*ERNEST SEFTON.

Lady Health Visitors.

*Miss ST. STEPHENS. *Miss LOWE. *Miss LANGLEY. *Miss HENDERSON

*Miss STANANOGHT.

Lady Inspectors of Midwives.

Miss ST. STEPHENS. Miss LOWE.

School Nurses.

*Miss BARTON. *Miss EVANS.

Chief Clerk.

THOMAS FOWLER.

Clerks.

†H. PEMBERTON.

†T. PICKERING.

†J. HARGREAVES.

J. R. MARSDEN.

Disinfectors.

J. W. JOHNSON. E. HODGSON. †E. SHUTTLEWORTH.

*Holders of the Royal Sanitary Institute Certificates.

† On military service.

PUBLIC HEALTH OFFICE,

BLACKBURN,

June, 1917.

*To the Chairman and Members of the Health Committee
of the County Borough of Blackburn.*

MR. CHAIRMAN AND GENTLEMEN,

I have the honour to submit to you, in accordance with the regulations of the Local Government Board, my fourth Annual Report on the Health and Sanitary Conditions of the Borough, viz., that for the year ending December 31st, 1916.

The Report contains the Vital and Mortality Statistics, the measures adopted for the prevention of disease, and the work carried out by the Public Health Department generally.

Owing to the absence on military service of Dr. Ewing, Resident Medical Officer at the Infectious Diseases Hospital and Tuberculosis Officer, Dr. Young in addition to carrying out his other duties has acted as Tuberculosis Officer, and I have continued to reside at the Infectious Diseases Hospital.

In the absence of Mr. Burndred, who is also on military service, the duties of Veterinary Inspector have been carried out by Mr. Holroyd, Junr., Veterinary Surgeon, Blackburn, and Mr. Goodman, Meat Inspector, has taken sole charge of the Public Abattoir.

On account of the impossibility of estimating with any degree of accuracy the population at the various age periods, its distribution in the several wards, and what section of it was engaged in the cotton industry, many tables have had to be omitted from this year's report. The report has also been curtailed by omitting certain particulars which do not vary from year to year, and can be found in previous reports.

The absence of 11 members of the staff of the Health Department on military service has thrown extra duties on

those remaining, and I wish to acknowledge the readiness with which the latter have undertaken their increased work.

I have again to thank you for the kindly encouragement and support you have given to me in carrying out my duties.

I am,

Mr. Chairman and Gentlemen,

Your obedient servant,

J. COOTE HIBBERT.

Section I.

VITAL STATISTICS.

POPULATION.

The population of the County Borough of Blackburn, taken at the Census of 1911, was 133,052, of which 61,788 were males and 71,264 females.

The Registrar General estimates the population of the Borough for the year 1916 as follows:—

“ For the calculation of the death rate 121,066.

“ For the calculation of the birth rate 131,722.

“ The former is an estimate of the civilian population ;
“ the latter of the total population based on the assumption
“ that the ratio between the total and the civilian population
“ is the same in the Borough as in England and Wales as
“ a whole.”

MARRIAGES.

The number of marriages during 1916 was 932, as compared with 1,250 during 1915.

Of these, 449 took place in the Established Churches, 481 in the Nonconformist places of worship and at the Register Office, and 2 at the Jewish Synagogue.

The rate of persons married per 1,000 of the total population was 14.1.

BIRTHS.

The number of births registered during the year in Blackburn was 2,067, of which 1,005 were males and 1,062 were females.

After correction according to instructions from the Registrar General, viz., that 4 of these births be allocated to other districts, and 2 which occurred in other districts be included in the total for Blackburn, the net births for the year were 2,065, which is equal to a birth-rate of 15.6 per 1,000 total population.

NOTIFICATION OF BIRTHS UNDER THE NOTIFICATION OF BIRTHS ACT, 1907.

Total number of Births notified under this Act	2,055
Number notified by Medical Men	428
,, ,, Midwives	1,462
,, ,, Parents	146
,, ,, Other Persons	19

ILLEGITIMATE BIRTHS.

Of the 2,065 registered births, 88 (or 4.2 per cent.) were illegitimate, and 11 of these occurred at the Union Infirmary.

A Doctor attended the birth in	12 cases.
A Doctor and Midwife in	10 ,,
A Midwife alone in	55 ,,

The mortality rate for illegitimate infants (number of deaths under one year of age per 1,000 illegitimate births) was 193.1, as compared with 117.8 for legitimate infants.

STILLBIRTHS.

The total number of stillborn children brought to the

Cemetery during the year was 125. This figure includes some miscarriages.

The number of stillbirths notified by medical men and midwives during the year under the Notification of Births Act was 121 :—males, 64; females, 49; sex not stated, 8.

Number notified by Medical Men 41

Number notified by Midwives 80

A medical man attended the confinement in 41 cases; a medical man and midwife in 37; a midwife in 43.

The age of the foetus was full term in 51 cases; 8 months in 24; and 7 months in 30. In the remaining 16 cases this information was not obtained.

DEATHS.

In Table I. will be found a classification of deaths in Blackburn during 1916, according to disease.

During the year there were 1,779 deaths, of which 864 were males and 915 females.

Corrections have been made as regards the deaths of persons who belonged to outside districts and who died in Blackburn, of Blackburn residents who died in outside districts, and also of members of His Majesty's Forces.

The total number of non-residents who died in institutions, &c., in this Borough was 154; the number of deaths amongst Blackburn residents occurring in districts outside was 58.

Deaths among members of His Majesty's Forces are excluded from the various Tables, even if they took place within the Borough.

The resulting death-rate was 14.6 per 1,000, as compared with 16.1 for the previous year.

Except where otherwise stated, the various death-rates for the Borough have been calculated on the estimated civilian population (see page 5).

The following were the death-rates per 1,000 living for England and Wales and for Blackburn during 1916 :—

England and Wales	14.0
96 Great Towns (including London) ...	14.4
148 Smaller Towns	13.0
Blackburn	14.6

Table I.

CAUSE OF DEATH.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	Death Rate.
	Total De'ths	Total De'ths	Total De'ths	Total De'ths	Total De'ths	Total De'ths	Total De'ths	
Enteric Fever	9	8	7	8	7	6	2	0·01
Smallpox	1	...	...	...	...	...	...	0·00
Measles	39	28	52	10	20	44	14	0·11
Scarlet Fever	27	10	3	1	10	6	4	0·03
Whooping Cough	15	50	27	7	9	39	7	0·05
Diphtheria and Croup.....	22	28	9	7	7	8	9	0·07
Influenza	28	14	20	35	24	32	25	0·20
Erysipelas	3	2	2	1	3	...	2	0·01
Phthisis (Pulmonary Tuberculosis)	110	119	109	88	124	109	115	0·94
Tuberculous Meningitis ...	15	13	8	12	12	14	7	0·05
Other Tuberculous Diseases	41	32	25	37	20	28	22	0·18
Cancer, Malignant Disease	127	113	128	139	134	157	136	1·12
Rheumatic Fever.....	11	7	3	7	5	16	10	0·08
Meningitis	27	21	20	29	24	18	23	0·19
Organic Heart Disease...	160	181	182	234	256	232	257	2·12
Bronchitis	202	216	206	193	246	263	220	1·81
Pneumonia (all forms) ...	147	193	190	219	192	201	162	1·33
Other Diseases of respiratory organs	13	11	18	20	18	15	30	0·24
Diarrhoea and Enteritis ...	79	208	40	140	60	59	29	0·23
Appendicitis and Typhlitis	8	10	11	12	12	8	7	0·05
Cirrhosis of Liver	7	8	8	6	10	12	7	0·05
Alcoholism	6	7	4	6	3	2	4	0·03
Nephritis and Bright's Disease	65	60	63	84	82	72	44	0·36
Puerperal Fever	8	5	3	3	6	3	4	0·03
Other accidents and diseases of Pregnancy and Parturition	13	16	9	13	12	5	4	0·03
Congenital Debility and Malformation, including Premature Birth	131	171	144	141	137	112	110	0·90
Violent Deaths, excluding Suicide	38	41	52	53	45	33	47	0·38
Suicide.....	17	17	13	20	27	13	25	0·20
Other Defined Diseases...	541	701	532	533	451	502	419	3·46
Diseases ill-defined or unknown	39	60	39	61	50	53	34	0·28
Total	1949	2149	1928	2119	2006	2062	1779	14·69

INQUESTS.

The total number of inquests held during the year was 146, as compared with 143 during 1915.

The number of uncertified deaths occurring during the year was 12, 7 of which were infants under one year of age.

INFANTILE MORTALITY.

During 1916 the death-rate of children under 1 year per 1,000 births was 121.0, as compared with 145.6 during 1915.

The Infantile Death-Rates for England and Wales during 1916 were as follow :—

	Deaths under 1 Year per 1,000 births.	
	1915.	1916.
England and Wales	110 ...	91
96 Great Towns (including London) ...	117 ...	99
148 Smaller Towns	114 ...	90

It will thus be seen that the Infantile Mortality Rate for Blackburn for the year 1916 is considerably below that for the preceding year, corresponding with a similar decrease in the rate for England and Wales as a whole.

Table II., giving the infantile mortality rates in the various Wards of the Borough, is specially interesting.

It will be seen that in the majority of the Wards there are marked differences between the rates for this and last year, and that, while in some there is a decided increase, in others there is a marked decrease in the rate.

On referring to Table III. and comparing the infant mortality rate for the year under report with that for the preceding year, it will be seen that the improvement for 1916 is chiefly noticeable in connection with the diseases Measles, Whooping Cough, Bronchitis and Pneumonia (frequent complications of Measles and Whooping Cough), Diarrhœa and Enteritis.

The group of "causes of death" comprised under the headings Atelectasis, Congenital Malformations, Premature Birth, Atrophy, Debility and Marasmus, which are themselves the results of influences acting through the mother on the child before it is born, shows no improvement: as a matter of fact Table III. indicates that the tendency is for the mortality from some of these causes to increase. They accounted during the year 1916 for 115 out of a total of 250 deaths of infants under 12 months of age.

Table IV. in the Appendix also shows that, out of a total of 250 deaths of children under 12 months of age, 60 occurred during the first week and 108 during the first month after birth, and further indicates the effect of pre-natal injury or disease.

In addition to these early deaths of children born alive, the 121 stillbirths, which were notified during the year, and the many miscarriages of which no record is obtainable, must also be taken into account in estimating the extent to which child life suffers from the action of adverse conditions before birth.

Such figures as these suggest the necessity, if the infant mortality is to be definitely reduced, of closer attention being given to the health and general welfare of the expecting mother.

Measles, Whooping Cough, and Diarrhœa will continue to levy a varying toll on infant life according as certain con-

ditions are favourable or otherwise to their prevalence, although it is hoped that, as regards Measles and Whooping Cough, increased knowledge on the part of the general public of the dangers of these diseases will lead to improvement by the better isolation and nursing of the cases, and that, as regards Diarrhœa, improved general and home sanitation will reduce the possibilities of infection.

The large number of deaths, however, which are the result of pre-natal disease or injury presents a more difficult problem, as the exact cause of death is rarely ascertained in these cases. The miscarriage and the stillbirth receive little investigation as to their cause, and the deaths of weakly and ill-developed children, which occur within the first few weeks after birth and are obviously the result of pre-natal causes, are for the most part classified under the indefinite headings previously referred to without the real cause of death being ascertained. Until the cause of death is more accurately known in at least the majority of cases it is obviously impossible to provide a remedy.

There is little doubt that Syphilis is the cause of a large proportion of these deaths, and the arrangements which are being made for the diagnosis and treatment of this disease should be of the utmost advantage if full use is made of them, especially in connection with miscarriages and stillbirths.

TABLE II.

Infantile Mortality in Wards from 1907 to 1916.

WARD.	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	Average for 10 years.
St. Stephen's	126·8	137·8	101·9	101·8	157·3	113·5	120·8	121·2	144·2	83·3	120·8
Trinity ...	158·8	153·0	172·4	191·4	162·3	140·5	229·4	144·5	193·4	119·3	166·5
St. Michael's	130·2	120·1	102·4	101·5	96·4	81·4	78·5	131·2	130·9	98·5	107·1
St. John's	151·8	155·0	125·8	115·6	189·0	121·9	128·2	84·4	125·8	141·6	133·9
St. Silas'...	108·1	75·3	85·3	37·0	120·5	69·4	58·8	40·9	72·5	98·2	76·6
St. Paul's	140·4	146·7	137·0	135·1	194·6	122·3	142·8	100·4	114·8	110·3	134·4
St. Peter's	211·6	240·8	142·0	177·2	315·4	116·8	222·8	129·6	184·0	96·7	183·6
St. Mary's	262·1	185·1	171·7	226·0	280·5	115·9	222·9	142·8	194·1	157·4	195·8
St. Matthew's	144·8	143·3	114·0	141·0	180·6	115·7	142·8	140·2	160·0	72·8	135·5
St. Thomas's	125·4	127·3	114·2	129·4	172·1	105·4	132·3	80·7	139·1	88·0	121·3
Park	146·8	169·6	140·4	133·3	258·3	147·9	158·3	138·8	128·8	212·6	163·4
St. Luke's	204·9	147·8	127·7	173·0	212·2	168·5	144·8	140·6	183·5	147·6	165·0
St. Mark's	145·1	124·0	113·7	100·9	156·0	90·4	157·8	80·9	93·5	175·6	123·7
St. Andrew's	112·7	166·6	135·6	140·5	176·9	143·4	122·3	120·3	175·1	124·4	141·7
Borough...	151·7	149·3	127·4	136·0	186·9	119·2	147·8	116·2	145·6	121·0	140·1

TABLE III.
Death Rates under One year of age.

CAUSE OF DEATH.	Rates per 1,000 Births.									
	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916
Small-pox	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chicken-pox	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Measles	4.1	1.1	3.1	3.0	1.7	4.7	1.7	1.7	5.3	1.9
Scarlet Fever.....	0.3	0.3	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0
Whooping-cough	5.0	3.5	3.1	2.0	9.8	5.1	1.3	2.1	8.5	1.4
Diphtheria and Croup	0.6	0.3	0.3	0.0	0.3	0.0	0.0	0.3	0.0	0.0
Erysipelas	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.7	0.0	0.0
Tuberculous Meningitis	2.4	0.9	0.6	1.0	0.7	0.7	1.0	0.0	0.4	0.2
Abdominal Tuberculosis	5.3	4.3	3.4	4.7	1.0	2.1	4.1	1.4	2.0	1.2
Other Tuberculous Diseases ...	1.2	1.4	0.6	0.6	1.0	0.3	0.3	0.3	0.8	0.0
Meningitis (<i>not Tuberculous</i>) .	1.5	2.9	2.8	3.4	3.1	1.4	2.4	0.7	0.4	2.3
Convulsions	6.5	7.9	7.3	8.8	9.1	13.5	13.0	9.2	9.8	8.2
Laryngitis	0.3	0.3	0.3	0.0	1.0	0.0	1.0	0.3	0.8	0.2
Bronchitis	15.5	9.3	12.4	14.2	15.0	9.8	11.6	13.5	23.2	13.1
Pneumonia (all forms)	21.5	15.2	14.0	13.5	14.3	12.4	11.6	10.3	15.0	14.0
Diarrhoea	11.9	33.6	9.2	11.8	58.1	11.3	29.8	12.1	11.4	5.3
Enteritis	0.0	0.0	3.1	8.4	0.0	0.0	5.1	0.7	5.7	4.8
Gastritis	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.7	2.0	1.9
Syphilis	0.9	0.9	0.9	0.6	1.4	0.7	1.7	0.3	0.8	0.9
Rickets	0.6	0.6	0.3	0.3	0.7	0.0	0.3	0.7	1.2	0.0
Suffocation, overlying	2.0	3.5	2.2	0.6	0.7	1.0	1.0	1.7	1.2	0.0
Injury at Birth	0.3	0.3	0.6	1.0	0.0	0.0	0.3	1.7	0.8	0.0
Atelectasis	2.6	0.3	1.2	1.3	0.3	1.0	1.7	1.7	2.0	3.3
Congenital Malformations	6.2	7.0	7.0	4.7	4.9	4.3	1.0	5.0	6.1	5.8
Premature Birth	23.0	19.3	19.4	21.3	25.5	24.0	20.5	20.7	22.8	30.0
Atrophy, Debility and Marasmus	14.3	22.8	12.1	14.9	25.9	19.3	25.4	22.1	15.0	16.4
Other causes	24.7	12.8	20.7	18.3	11.5	6.5	12.3	7.4	10.6	8.2

TABLE IV.

Infantile Mortality Rates in Blackburn.

Year.	Rate per 1000 Births.	
1881	181	177
1882	205	
1883	185	
1884	173	
1885	142	193
1886	157	
1887	204	
1888	190	
1889	221	210
1890	194	
1891	207	
1892	199	
1893	241	199
1894	168	
1895	235	
1896	172	
1897	207	169
1898	204	
1899	193	
1900	221	
1901	193	143
1902	157	
1903	158	
1904	191	
1905	146	142
1906	155	
1907	151	
1908	149	
1909	127	142
1910	136	
1911	186	
1912	119	
1913	147	142
1914	116	
1915	145	
1916	121	

As in the Annual Reports for 1914 and 1915, Table V. was compiled with a view to showing what effect, if any, engagement of mothers away from home had on their children during the first 6 months of life. According to these figures, there is only slight evidence that the children of industrial mothers suffer as compared with those of non-industrial mothers, at any rate up to 6 months of age. They show, however, that when the mother is engaged away from home, artificial feeding tends to replace breast feeding to a considerable extent, and the effect of this may not become evident until after the first six months of life.

With a view to ascertaining further what influence the mother working away from home may have had on the child, the children referred to in Table XIX. of last year's Annual Report were followed up during the year and their condition between the ages of 18 and 24 months ascertained by the Health Visitors. Table VI. gives the results of this investigation.

This Table gives some evidence that the children of industrial mothers do suffer as compared with those of non-industrial mothers, a somewhat larger proportion of the former being in an unsatisfactory state of health at the age period referred to.

The following Local Government Board Tables are given in the Appendix :—

- I.—Vital Statistics of the whole Borough during 1916 and previous years ;
- II.—Cases of Infectious Disease notified during 1916.
- III.—Causes of, and ages at Death, during 1916.
- IV.—Deaths under One Year during 1916.

Section II.

MATERNITY AND CHILD WELFARE WORK.

This work is carried out by the 5 Lady Health Visitors, 2 of whom also perform the duties of Inspectors of Midwives.

The work may be divided into the following sections :—

- (1) Home Visiting of Infants.
- (2) Work at the Maternity and Child Welfare Centres.
- (3) Supervision of Midwives.
- (4) Other Maternity Work.

I.—HOME VISITING OF INFANTS.

The Notification of Births Act, which has been in force in this Borough since 1908, enables the Department to obtain early information of all births, and the five Lady Health Visitors have visited the homes where 1,964 of the 2,065 births registered during the year have occurred.

It will thus be seen that the large majority of infants born in the Borough are visited. If a doctor is not in attendance at the birth, the first visit is paid during the mother's lying-in period, and by this means not only are particulars obtained about the child and advice given to the mother concerning its feeding and general welfare, but also the work of the midwife is supervised.

Efforts are made to induce the mother to undertake breast feeding and, if for one reason or another this is impossible, advice is given on the artificial feeding of the infant.

Subsequent visits are paid to the child during the first two years of its life, the number of which depending upon the conditions of each individual case; but every child is visited at birth, at the end of the 3rd and 6th month, and between the age of 18 and 24 months.

At these subsequent visits, 7,737 of which were paid during the year, attention is also given to the general hygiene of the home.

2.—WORK AT THE MATERNITY AND CHILD WELFARE CENTRES.

Three centres have been open during the year, namely, at the Health Office, Town Hall, at No. 43, Copy Nook, and at No. 119, Bolton Road.

Each centre is situated, as far as possible, in the midst of a poor and populous district.

The centres have been open on one afternoon a week, from 2-30 to 4 p.m. They are under the control of the Medical Officer of Health, and each is conducted by the Inspector of Midwives and by the Health Visitor of the district in which the centre is situate. At the centre the children are weighed and advice is given to the mothers as to the feeding and care of their infants. Short talks or popular lectures on health matters generally are also given by the Medical Officer of Health or other members of the staff of the Health Department. Mothers are also encouraged to bring older children who are under school age to the centres.

It is also hoped that expectant mothers will be induced to attend the centres, so that they may receive advice as to the care of themselves during pregnancy and as to their preparation for maternity, but up to the present very few have attended.

The medical practitioners of the Borough have undertaken to give their services gratuitously in connection with these centres, and a practitioner holds a clinic at each centre so that mothers individually can consult him and obtain medical advice as to their babies.

Expectant mothers can also consult the Doctor, and precautions can be taken to insure, as far as possible, against complications arising in connection with the confinement.

Sets of model clothing for infants are on view and patterns of the various garments are supplied to mothers, assistance being given in the cutting out and making of the various articles.

During the year also special stress has been laid on the economical and proper selection and cooking of food.

SUMMARY OF ATTENDANCES AT THE CENTRES.

	Health Office.	Copy. Nook.	Bolton Road.
No. of Sessions	48	47	30
No. of Infants attending under the age of 12 months	112	180	87
Average Attendance of Infants under 12 months of age	5.8	16.1	10.03
No. of Children attending over the age of 12 months	25	93	44
Average Attendance of Infants over 12 months of age	1.9	4.06	2.6
No. of Expectant Mothers at- tending	3	13	4

3.—SUPERVISION OF MIDWIVES.

Two of the Health Visitors, *i.e.*, Miss St. Stephens and Miss Lowe, also carry out the duties of Inspectors of Midwives.

This work includes the following :—

- (a) Inspection of registers and case books kept by the Midwives, the condition of their appliances and instruments, and the cleanliness of their persons and of their homes.
- (b) The supervision of their work at the labours and during the lying-in period.
- (c) Instruction of the Midwives in matters pertaining to their work.
- (d) Investigation of cases of Puerperal Fever, Ophthalmia Neonatorum and of any cases in which it is suspected that the Midwife has not carried out her duties in a proper manner.

172 visits were paid to Midwives practising within the Borough during the year.

44 Midwives notified their intention to practice during the year. Of these, 3 removed, leaving 41 names on the register at the end of the year.

Five of the 41 Midwives acted as maternity nurses only.

Of the 44 Midwives, 26 have been trained and have obtained certificates after examination; the remainder are on the Midwives' Roll by virtue of their having been in practice previous to the passing of the Midwives' Act, 1902. Six of the Midwives are too illiterate to write up their cases in the case books and one is incapable of recording pulse or temperature.

All the Midwives wear washable dresses and aprons, and carry bags fitted with the necessary appliances.

In 7 instances the Midwife has failed to comply with one or other of the Rules of the Central Midwives' Board, and has been either interviewed or written to on the matter by the Medical Officer of Health.

One case of Puerperal Fever occurred in a Midwife's practice during the year.

9 cases of Ophthalmia and 12 of slight inflammation of the eyes have occurred in the Midwives' practice.

In a few instances "handy women" have acted as Midwives in cases of emergency, but as a rule a medical man or midwife has taken charge of the case after the emergency has been dealt with. In every instance the "handy woman" has been cautioned against acting as a Midwife.

On the whole the Midwives' work has been carried out in a satisfactory manner.

PROPORTION OF BIRTHS ATTENDED BY DOCTORS AND MIDWIVES RESPECTIVELY.

Of the 2,065 Births registered during the year :—

A Doctor

was engaged for and conducted the labour in 792 cases.

A Midwife

„ „ „ 1,259 „

A Handywoman conducted labour in 4 „

Children born in workhouse and no particulars
obtained 10 „

No. of instances a Midwife called in a Doctor
during labour 168 „

No. of instances a Midwife called in a Doctor
after labour :—

(a) on account of mother's condition ...	90
(b) on account of child's condition ,.....	50 ,,

4.—OTHER MATERNITY WORK.

48 expectant mothers have been visited at their homes on one or more occasions. The majority of these cases were reported to the Health Department by the War Relief Committee, so that it could be ascertained in what direction relief could best be given. At the same time the Inspectors of Midwives were able at their visits to give these expectant mothers advice in connection with their preparation for motherhood.

Maternity bags, supplied by the War Relief Committee, were given by the Inspectors in the majority of cases. These bags are lent for the confinement in cases of poverty.

Table V.

Investigation of Children who attained or should have attained the age of 6 months during the year (*i.e.*, children born from July 2nd, 1915, to June 30th, 1916).

Number of children who should have attained the age of 6 months during the year 1916	2183
Number of children who attained the age of 6 months during the year and were investigated	1727
Number of children who died before attaining 6 months of age and were investigated	134
Number of children who were not visited or could not be traced	322

	CHILDREN OF *INDUSTRIAL MOTHERS.														CHILDREN OF *NON-INDUSTRIAL MOTHERS.									
	Children Investigated	FEEDING.				Whether nursed away from home.		When Mother ceased work before confinement.					When Mother resumed work after confinement.					Children Investigated	FEEDING.				Whether nursed away from home.	
		Entirely fed on the breast up to end of 6th month	Fed on the breast and artificially	Entirely artificially fed.	Not fed.	Yes.	No.	Under 1 week	Over 1 week and under 1 month	Over 1 month and under 2 months	Over 2 months and under 3 months	Over 3 months and under 5 months	Under 1 week	Over 1 week and under 1 month	Over 1 month and under 2 months	Over 2 months and under 3 months	Over 3 months and under 7 months		Entirely fed on the breast.	Fed on the breast and artificially.	Entirely artificially fed.	Not fed.	Yes.	No.
Satisfactory	613 70.1	150 24.4	344 56.1	119 19.4	0 0.0	302 49.2	311 50.7	24 3.9	85 13.8	153 24.9	116 18.9	180 29.3	— 0.0	21 3.4	141 23.0	78 12.7	117 19.0	758 76.8	418 55.1	212 28.0	128 16.8	0 0.0	0 —	0 —
Fairly satisfactory	164 18.8	22 13.4	90 54.8	52 31.7	0 0.0	81 49.3	83 50.6	8 4.8	24 14.6	45 27.4	28 17.0	36 22.0	— 0.0	2 1.2	56 34.1	31 19.0	27 16.4	124 12.5	34 27.5	61 49.1	29 23.4	0 0.0	0 —	0 —
Unsatisfactory	38 4.3	0 0.0	20 52.6	18 47.3	0 0.0	16 42.1	22 57.8	1 2.6	6 15.7	14 36.8	3 7.8	12 31.5	— 0.0	1 2.6	8 21.0	14 36.8	3 7.8	30 3.0	5 16.6	15 50.0	10 33.3	0 0.0	0 —	0 —
Dead	59 6.7	8 13.5	19 32.2	12 20.3	20 33.9	5 8.4	54 91.5	10 7.0	13 22.0	16 27.1	7 11.8	11 18.6	— 0.0	1 1.7	3 5.1	1 1.7	1 1.7	75 7.6	15 20.0	18 24.0	24 32.0	18 24.0	0 —	0 —
Total.....	874 100.0	180 20.5	473 54.2	201 23.0	20 2.2	404 46.2	470 53.7	43 4.9	128 14.6	228 26.1	154 17.6	239 27.3	0 0.0	25 2.8	208 23.8	124 14.2	148 16.0	987 100.0	472 47.8	306 31.0	91 19.3	18 1.8	0 —	0 —

* Mothers who continue to work away from home after the 4th month of pregnancy or who resume work within 6 months after confinement.

Table VI.

Investigation of Children who attained or should have attained the age of 18 to 24 months during the year 1916.

(This is a further following up of children referred to in Table XIX. of the Annual Report for 1915.)

Number of children investigated between the 18th and 24th month of their age 2091

(264 of the 2355 children referred to in the Report for 1915 were untraceable.)

Number of these children who were living 1646

Number of these children who had died 445

	Number of Cases Investigated	Dead					Living at age of 18 to 24 months						Feeding	
		Number of Children who have Died	Under 3 months	3 months and under 6 months	6 months and under 12 months	Over 12 months	Number of Children Living	Satis- factory	Fairly Satis- factory	Unsatisfactory			Entirely fed on the breast up to the end of the 6th month	Entirely fed on the breast up to the end of the 9th month
										Number showing definite signs of Rickets	Number showing retarded develop- ment	Number showing other signs of ill-health		
Percentage					Percentage						Percentage			
GROUP A.														
Mother of *Industrial Mothers	1081	227 (21'0)	10'4	3'6	4'2	2'7	854 (79'0)	41'0	8'8	15'1	9'8	4'1	24'0	17'0
											29'1			
GROUP B.														
Children of Non-In- dustrial Mothers	1010	218 (21'5)	9'5	3'5	6'1	2'3	792 (78'4)	52'3	7'1	9'0	6'8	3'0	50'5	39'7
											18'9			

*Mothers who continue to work away from home after the 4th month of pregnancy or who resume work within 6 months after confinement.

Table VII.—Deaths in Childbed during the last Five Years.

Cause of Death.	1912	1913	1914	1915	1916
Abortion	2	1	1	...	...
Hæmorrhage .....	...	1	...	...	...
Uncontrollable Vomiting .....	...	...	...	...	...
Ectopic Gestation.....	...	1	...	...	...
Other Accidents of Pregnancy	1	...	1	...	...
Puerperal Hæmorrhage	1	...	1	1	...
Other Accidents of Child Birth.....	2	5	9	3	2
Puerperal Fever ...	3	3	6	3	4
Puerperal Nephritis and Uræmia .....	...	1	...	...	...
Puerperal Albuminuria and Brights Disease .....	...	...	...	...	...
Puerperal Convulsions	3	3	...	1	2
Puerperal Phlegmasia, Alba-dolens, and Phlebitis .....	...	...	...	...	...
Puerperal Embolism and Sudden Death .....	...	1	...	...	...
Puerperal Insanity .....	...	...	...	...	...
Puerperal Diseases of Breast.....	...	...	...	...	...
Total	12	16	18	8	8

Section III.

INFECTIOUS DISEASES,

The death-rates for the principal infectious diseases per 1,000 living during 1916 are given below, and compared with the average rates for the 96 great towns of England and Wales :—

	96 Large Towns.	Black- burn.
Smallpox.....	0·00	0·00
Measles	0·21	0·11
Scarlet Fever	0·04	0·03
Whooping Cough	0·21	0·05
Typhoid Fever	0·02	0·01
Diphtheria	0·15	0·07
Diarrhœa and Enteritis	<div style="display: flex; align-items: center;"> { <div> <div>per 1000 population</div> <div>per 1000 births ...</div> </div> </div>	0·18
under 2 years.		10·65

TABLE VIII.
Shewing number of cases of Infectious Diseases notified from 1899 to 1916.

Disease.	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916
Smallpox .....	...	23	...	49	92	2	4	...	1	...	2	1	...	..	...	...	...	...
Diphtheria (in- cluding Mem- branous Croup)	229	334	284	83	132	60	157	166	150	100	102	96	107	55	76	62	39	52
Erysipelas ...	...	...	...	76	66	81	132	112	99	81	94	90	77	87	90	97	69	66
Scarlet Fever...	615	1476	1117	494	339	458	1578	849	544	595	1013	795	343	116	268	704	460	153
Enteric Fever	233	163	131	127	97	111	90	82	61	85	69	46	49	26	31	31	44	14
Puerperal Fever	13	14	11	18	11	7	24	12	25	11	11	10	9	9	8	10	5	5
Typhus Fever	1	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cerebro Spinal	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	2
Meningitis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	1	...	...	1
Polio-myelitis ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pulmonary	...	...	...	...	...	...	...	...	...	...	...	...	...	217	230	212	213	154
Tuberculosis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	104	60	88	49
Other forms of	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15	19	15
Tuberculosis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1081
Ophthalmia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Neonatorum	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	1091	2010	1543	847	737	719	1985	1221	880	872	1291	1038	585	515	808	1191	937	1592

SMALLPOX AND VACCINATION.

There has been no case of Smallpox in the Borough during the year. The last case occurred in 1916.

The vaccination returns for the year are as follow :—

No. of children vaccinated	768
„ „ exempted	955
„ „ removed from district	21
„ „ insusceptible	4
„ „ not accounted for & not vaccinated	91
„ „ died unvaccinated.	196
„ of vaccinations postponed	34

SCARLET FEVER.

The number of cases notified during the year 1916 was 153, as compared with 460 during 1915 and 704 during 1914.

The following were the cases and deaths in age-periods during 1916 :—

Age Period	0-1	1-2	2-5	5-10	10-15	15-20	20-25	25-35	35-45	45-55	TOTAL
Cases	6	43	68	20	9	3	2	1	1	153
Death	2	2	...	...	...	...	...	...	4

Death-rate per 1,000 living, 0.03; case mortality per cent., 2.6.

DIPHTHERIA AND MEMBRANOUS CROUP.

The number of cases notified during the year 1916 was 52, as compared with 39 during 1915 and 62 during 1914.

The following were the cases and deaths in age-periods during 1916 :—

Age Period	0-1	1-2	2-5	5-10	10-15	15-20	20-25	25-35	35-45	45-55	TOTAL
Cases...	1	2	20	17	4	3	2	1	2	...	52
Deaths..	...	...	8	1	...	...	...	...	...	...	9

Death-rate per 1,000 living, 0.07; case mortality per cent., 17.3.

TYPHOID OR ENTERIC FEVER.

The number of cases notified during the year 1916 was 14, compared with 44 during 1915.

The following were the cases and deaths in age periods during 1916 :—

Age Period	0-1	1-2	2-5	5-10	10-15	15-20	20-25	25-35	35-45	45-55	TOTAL
Cases...	4	1	2	2	2	2	1	14
Deaths..	1	1	...	2

Death-rate per 1,000 living, 0.01; case mortality per cent., 14.2.

Under the powers given in the Blackburn Corporation Act, 1908, shellfish collected from certain beds, which were found to be polluted with sewage, were stopped from being sold within the Borough.

ERYSIPELAS.

During 1916, 66 cases of Erysipelas were notified, and 2 deaths were registered.

PUERPERAL FEVER.

There were 5 notifications of Puerperal Fever received from Medical Practitioners during 1916.

4 of the cases terminated fatally.

MEASLES.

1,081 cases of Measles were reported from the Schools during the year, compared with 1,082 during 1915 and 863 during 1913-14.

The following Table gives the number of cases reported and the deaths per month during the year :—

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Cases Reported	213	252	191	97	61	33	34	9	16	51	73	51	1081
Deaths ..	3	2	2	4	1	...	...	1	1	...	...	...	14

DEATHS IN AGE-PERIODS.

0—1	1—2	2—5	5—10	Total.
4	6	3	1	14

The death-rate from Measles during 1916 was 0.11, as compared with 0.34 during 1915; the case mortality per cent. was 1.2.

TABLE IX.

List of Infant Departments closed on account of the prevalence of Measles ; also showing the effect of closure in arresting the spread of the disease.

SCHOOL.	Period School Closed.	Cases occurring during the 16 days before closure.	Cases occurring during the 16 days of closure.	Cases occurring during the 16 days following the re-opening of the Infant Department.
Witton Infants	Jan. 27 to Feb. 13	32	13	0
Wensley Fold Infants ...	Feb. 3 to Feb. 18	12	7	0
Bank Top Infants ...	Feb. 3 to Feb 18	8	4	2
St. Gabriel's Infants	Feb. 8 to Feb 23	12	15	2
St. Silas' Infants	Feb. 12 to Feb. 27	10	17	1
Christ Church Infants.....	Mar. 25 to Apr. 9	26	14	4
St. Joseph's Infants	Oct. 24 to Nov. 6	4	10	0
Park Road Infants	Oct. 24 to Nov. 6	4	5	0

This Table shows that the disease rapidly dies down at a School after closure of an Infant Department for 16 days, and tends to prove that this disease is chiefly spread at School.

WHOOPIING COUGH.

There were 7 deaths from Whooping Cough during 1916, as compared with 39 during 1915 and 9 during 1914.

These 7 deaths occurred in the following age-periods :—

0—1	1—2	2—5	5—10
3	3	1	0

TUBERCULOSIS.

There were 144 deaths from Tuberculosis during 1916, as compared with 151 during 1915.

Of these 144 deaths, 115 were due to Tuberculosis of the Lungs.

The death-rate from all forms of Tuberculosis was 1.18 per 1,000 of the population, and from Pulmonary Tuberculosis 0.94 per 1,000.

During the year 195 notifications of cases of Tuberculosis were received from Medical Practitioners, compared with 301 received during 1915.

Of the 195 notifications received, 154 were cases of Tuberculosis of the Lungs, and 41 were cases of Tuberculosis in other organs of the body.

The following Table gives a Summary of the Notifications received from Institutions during the year :—

INSTITUTION.	Admitted.	Discharged
Tuberculosis Wards, Blackburn Infectious Diseases Hospital	65	64
Meathop Sanatorium, Grange-over-Sands	30	31
Blackburn Union Infirmary.....	47	45
Crossley Sanatorium, Kingswood .....	...	1
Burnley Union Infirmary.....	...	2
Haslingden Union Infirmary .....	...	2
Fishpool Hospital .....	...	1

In several instances a patient has been transferred from one institution to another, and therefore the same case may appear under the heading of more than one institution.

TUBERCULOSIS DISPENSARY.

As during previous years, a room in the Offices of the Health Department has been used for the Dispensary, but a special building has been erected in Duke Street, and will be opened after the war. .

The number of persons examined at the Dispensary for the first time during the year was as follows:—

	Males.	Females.	Total.
Insured persons	51	28	79
Non-insured persons	23	27	50
	—	—	—
	74	55	129

The total number of persons attending the Dispensary for treatment or for observation was 145, and the patients made a total number of 253 attendances.

TABLE X.
Deaths from Tuberculosis for Ten Years.

	1907.		1908.		1909.		1910.		1911.		1912.		1913.		1914.		1915.		1916.	
	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate
Tabes Mesenterica ...	36	0.26	28	0.20	23	0.16	22	0.16	13	0.09	15	0.11	21	0.15	10	0.07	16	0.12	11	0.09
Tuberculous Meningitis	36	0.26	16	0.11	22	0.16	15	0.10	13	0.09	8	0.05	12	0.08	12	0.08	14	0.10	7	0.05
Pulmonary Tuberculosis...	133	0.98	148	1.09	136	0.99	110	0.80	119	0.89	109	0.81	88	0.65	124	0.92	109	0.85	115	0.94
Other Forms	9	0.06	10	0.07	9	0.06	7	0.05	8	0.06	10	0.07	16	0.11	10	0.07	12	0.09	11	0.09
Total	222	1.65	217	1.60	199	1.46	166	1.21	164	1.23	142	1.06	137	1.02	156	1.16	151	1.18	144	1.18

TABLE XI.

Pulmonary Tuberculosis in Blackburn.

Year.	Deaths.	Death Rate (per 1,000).
1881 .....	.....	1.90
1882 .....	.....	1.80
1883 .....	.....	1.90
1884 .....	.....	1.70
1885 .....	.....	1.30
1886 .....	.....	1.80
1887 .....	.....	1.50
1888 .....	.....	1.50
1889	187	1.52
1890	214	1.80
1891	163	1.35
1892	132	1.09
1893	134	1.10
1894	148	1.20
1895	160	1.29
1896	142	1.14
1897	149	1.19
1898	154	1.22
1899	152	1.20
1900	148	1.16
1901	150	1.17
1902	163	1.25
1903	122	0.93
1904	125	0.94
1905	142	1.06
1906	124	0.92
1907	133	0.98
1908	148	1.09
1909	136	0.99
1910	110	0.80
1911	119	0.89
1912	109	0.81
1913	88	0.65
1914	124	0.92
1915	109	0.85
1916	115	0.94

1.720

1.624

1.206

1.182

1.070

0.956

0.824

TABLE XII.

Treatment of Pulmonary Tuberculosis.—Meathop Sanatorium.

	ADMISSIONS.						DISCHARGES.			
	Age Periods.			Stage of Disease.			N. I. Act.		Number of cases.	Condition of Patients on Discharge.
	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	Insured, treated by H'th Com.	Insured by Ins. Com.		
Males..... (15 cases)	...	4	...	8	2	1	6	7	15	6
				5	10	...		2		8
										1
										117.0 days
Females..... (15 cases)	2	2	3	4	4	...	5	4	15	6
				6	9	...		6		3
										145.3 days

TABLE XII.—Continued.
Fever Hospital (Tuberculosis Wards).

	ADMISSIONS.										DISCHARGES.									
	Age Periods.					Stage of Disease			N. I. Act.		Number of cases.	Condition of Patients on Discharge.								
												Improved	No improve- ment	Disease advancing	Died	Transferred to Meathosp	Average stay in Hospital			
	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	Early	Moderately advanced	Ad- vanced	Insured Treated by HC. I.C.								Not insured		
Males..... (48 cases)	1	3	3	10	20	11	8	7	33	13		25	10	42	...	18	8	5	7	4	88.3 days
Females..... (21 cases)	6	2	3	5	5	...	4	4	13	4	5	12	25	...	9	2	4	7	3	143.0 days

INFANTILE DIARRHŒA AND ENTERITIS.

The deaths from Diarrhœa and Enteritis of children under two years of age were 22, as compared with 51 during the year 1915.

21 of these deaths occurred amongst children under 12 months of age.

CANCER.

There were 136 deaths from Cancer during the year, as compared with 157 during 1915.

VENEREAL DISEASES.

A scheme for facilitating the diagnosis and treatment of these diseases has been prepared and will be brought into operation as soon as final arrangements have been made.

DISINFECTION.

492 rooms at 389 houses were sprayed with Formalin, after cases of infectious diseases.

410 visits to infected houses were made for the purpose of supplying disinfectants, and 43 typhoid pails were collected and their contents burned at the Destructor.

The following articles were disinfected by steam :—

The following articles were disinfected by steam :—503 beds, 328 mattresses, 430 bolsters, 695 pillows, 675 quilts, 732 blankets, 329 sheets, 277 suits, 192 carpets, 228 rugs, 293 curtains, 1,869 sundries.

* The following articles were removed to the Destructor and destroyed by consent of the owners :—31 beds, 47 mattresses, 7 bolsters, 25 pillows, 2 quilts, 7 blankets, 7 sheets, 2 Suits, 3 rugs, 51 sundries.

FEVER HOSPITAL.

The following Table gives a summary of the patients admitted to the Fever Hospital during 1916.

It will be observed that the average number of beds occupied was 14.1, as compared with 46.6 for the previous year.

The average number of days each patient stayed in Hospital was 34.0.

Table XIII.--Fever Hospital.

Notified Disease.	Patients remaining in hospital on January 1st, 1916.				Patients admitted and discharged during 1916.				Patients remaining in hospital on January 1st, 1917.				Analysis of all cases admitted in 1916, whether discharged or not during the year.				Average No. of Beds occupied during 1916.
	Total	Recov-ered.	Died.		Total	Recov-ered.	Died.		Total	Recov-ered.	Died.		Total	Recov-ered.	Died.	Av'ged days in Hospital	
Scarlet Fever ...	36	36	...		95	93	2		5	6	...		101	99	2	36.4	10.0
Enteric Fever...	5	5	...		12	10	2		...	...	...		12	10	2	36.4	1.1
Diphtheria.....	1	1	...		26	23	3		6	6	...		32	29	3	33.1	2.4
Dysentery .....	...	...	...		7	6	1		...	...	...		7	6	1	33.3	0.6
Totals	42	42	...		140	132	8		12	12	..		152	144	8	34.0	14.1

SCARLET FEVER.

The total number of cases admitted during the year as Scarlet Fever was 101.

One case had Whooping Cough on admission.

One Patient contracted German Measles in Hospital.

Two Deaths occurred, giving a case mortality of 1.9 per cent.

The Convalescent Scarlet Fever Pavilion (26 Beds) is still being used for patients suffering from Pulmonary Tuberculosis.

RETURN CASES.

In one instance an inmate of the household developed Scarlet Fever within 28 days of the return of a case of the disease from Hospital, giving a percentage of 0.9 return cases.

The following complications and sequelæ occurred amongst the Scarlet Fever patients :—

Rhinitis	3
Otorrhœa	5
Mastoid Abscess	1
Albuminuria	12
Adenitis	4
Adenitis (suppurative)	2
Nephritis	2
Septic Finger	1
Rheumatism	2

ENTERIC FEVER.

The total number of cases admitted to the Hospital certified as Enteric Fever was 12.

Two cases notified to be suffering from Enteric Fever were found on admission not to be suffering from the disease, one being a case of Pneumonia and the other one of Meningitis.

One case notified as Diphtheria was found on admission to be suffering from Enteric Fever.

Among the 11 true cases of Typhoid Fever there were 2 deaths, showing a case mortality of 18.1.

DIPHTHERIA.

29 cases were admitted to the Hospital notified as suffering from Diphtheria.

4 cases admitted as Diphtheria were found not to be suffering from the disease.

Of the 25 true cases, 4 were laryngeal cases.

Tracheotomy was performed on 3 of these 4 cases, and 1 recovered.

Among the 25 cases of Diphtheria there were 3 deaths, showing a case mortality of 12.0 per cent.

FEVER HOSPITAL BACTERIOLOGICAL LABORATORY.

The following work has been carried out at the Fever Hospital Laboratory during the year :—

Positive. Negative. Total.

For the detection of Diphtheria Bacilli—

Swabs for diagnosis of cases in				
Hospital	3	...	18	... 21
Swabs from cases under private				
medical practitioners	21	...	61	... 82
Swabs from cases before dis-				
charge from Hospital	13	...	21	... 34

For the detection of Tubercle Bacilli—

Sputum sent by private medical				
practitioners	56	...	195	... 251
Sputum from patients under				
treatment in Hospital	3	...	4	... 7
Sputum sent by Tuberculosis				
Officer	1	...	23	... 24
	<hr/>		<hr/>	<hr/>
Total	60		222	282

Section IV.

—◆◆— FACTORIES AND WORKSHOPS. —

Owing to the absence of Inspector Kenyon, this work has been undertaken by the Chief and other Inspectors.

There were 821 workshops on the register at the end of the year, and they contained 1,003 rooms, 36 of which were underground.

The register in 1916 showed an increase of 9 workshops as compared with those existing in 1915.

The approximate number of males employed in these workshops was 1,463, and of females 1,218, as compared with 1,140 females in 1915.

The visits to factories numbered 149, and to workshops 1,052, as compared with 149 and 1,206 such visits during 1915.

The visits paid in connection with Factories and Workshops during the year were as follows :—

Factories	149
Workshops	1052
Workplaces	61
Outworkers	12
Food Preparing and Storing Places	121
Bakehouses	143

68 visits were paid to investigate complaints of nuisance, and 75 visits to supervise work being carried out.

49 Notices were served for defective conditions. 44 nuisances were remedied, and drains tested on 25 occasions.

The following list shows the matters referred to in the various notices received from H.M. Inspectors in connection with Factories and Workshops :—

	Factories. Workshops.	
Rooms requiring limewashing or cleansing	—	9
General repairs	—	—
Defective flushing apparatus ...	—	—
Closets to be cleansed and lime- washed	I	I
Sanitary accommodation for sexes not separated	I	3
Insufficient closet accommodatio ⁿ tion	I	I

UNDERGROUND ROOMS.

There were 36 underground rooms on the register for 1916, including those used by bakers.

BAKEHOUSES.

There were 206 premises on the Workshop Register as wholesale, retail, and domestic retail bakehouses, or as sugar-boiling establishments.

UNDERGROUND BAKEHOUSES.

There were 4 underground bakehouses in use at the end of the year 1916.

COTTON OPERATIVES' MORTALITY STATISTICS.

Owing to the changes which have occurred during the year in the number of persons employed in the cotton industry, no reliable mortality statistics could be prepared.

Section V.



FOOD SUPPLY.

SALE OF FOOD AND DRUGS ACT.

During the year 418 samples were purchased in Blackburn in the administration of the Food and Drugs Acts, of which 362 were samples of milk.

Of the total number of samples taken, 396 were found on analysis to be genuine.

The following Tables are of interest as showing the average composition of milk sold in Blackburn in different months of the year.

Nearly all the milk supplies coming into the Borough from outside districts were sampled, as well as milk from farms within the Borough.

THE PUBLIC HEALTH (MILK AND CREAM) REGULATIONS, 1912.

All the samples of Milk taken during the year were examined for preservatives with negative results.

TABLE XIV.

Work under the Food and Drugs Act.

Articles Purchased.	Number Analysed.	Number Genuine.	Number Adulterated.	Extent or Adulteration.	Action taken
Milk	362	344	18	4% deficient in fat	Other samples taken and found genuine.
				4% „	„ „
				13% „	Case withdrawn.
				10% „	Fined £3.
				Very slightly deficient in fat.	Other samples taken and found genuine.
				„ „	„ „
				9% deficient in fat.	Fined £8.
				10% „	Fined £3.
				Very Slightly deficient in fat and slightly watered	Other samples taken and found genuine.
				Very slightly deficient in fat	Other samples taken.
				5% of added water.	Fined £5.
				7% deficient in fat	Fined £2.
Carried forward	362	344	18		

Food and Drugs Act—*Contd.*

Articles Purchased.	Number Analysed.	Number Genuine.	Number. Adulterated.	Extent of Adulteration.	Action taken.
Brought forw'rd Milk.....	362	344	18	10% deficient in fat	Fined £2
				28% „	Fined £5.
				8% „	Fined £1.
				Very Slightly watered.	Other samples taken and found genuine.
				13% deficient in fat	Fined £7.
				11% „	Case dismissed
Butter	10	10			
Margarine	9	9			
Baking Powder...	9	9			
Egg Powder...	6	5	1	Contained approximately $\frac{1}{10}$ th grain of arsenic per lb.	Warning letter from the Medical Officer of Health
Ground Ginger	5	5			
Arrowroot	4	4			
Coffee	3	3			
Carried forward	408	389	19		

Food and Drugs Act—*Contd.*

Articles Purchased.	Number Analysed.	Number Genuine.	Number Adulterated.	Extent of Adulteration.	Action taken.
Brought forward	408	389	19		
Bread and Butter	3	1	2	84% Bread 16% Margarine	Informal sample, Vendor warned.
Self-raising Flour	3	3			
Lard	2	2			
Dried Milk	1	1			
“Walnut Cream Butter”	1	1			
Total...	418	397	21		

OTHER OFFENCES.

One milk seller was fined £2 os. od. for not having his milk float properly labelled.

Margarine was found on 25 occasions not properly labelled, and warning letters were sent by the Medical Officer of Health.

Five milk cans were found not properly labelled, and warning letters were sent by the Medical Officer of Health.

TABLE XV.

Average Amount of Fat and Non-Fatty Solids in the
Samples of Milk taken during 1916.

MONTH.	Number of Samples.	Average percentage of Fat.	Average percentage of Solids not Fat.
January	43	3'55	8'97
February	39	3'69	8'92
March	59	3'60	9'02
April	21	3'61	8'93
May	34	3'67	9'03
June	33	3'38	9'30
July	32	3'59	9'20
August	8	3'50	8'93
September	30	3'83	9'19
October	37	3'98	9'02
November	18	3'56	9'07
December	8	3'50	8'80
Total	362	3'62	9'03

It will be seen that the average percentage of fat in the samples obtained during the year was well above the 3% minimum fixed by the Board of Agriculture.

Table XVI.

MILK SAMPLES BELOW THE MINIMUM FIXED BY THE
BOARD OF AGRICULTURE.

Month.	No.	Amount of fat %	Amount of other solids	Action taken.
Jan.	3	2.87	8.78	Other samples taken and found genuine.
		2.86	8.84	" " " "
		2.61	8.51	Case withdrawn. " " " "
Feb.	3	2.68	8.79	Fined £3.
		2.90	9.05	Other samples taken and found genuine.
		2.90	9.00	" " " "
March	2	27.3	8.81	Fined £8.
		2.68	8.38	Fined £3.
April	1	2.93	8.37	Other samples taken and found genuine.
May	2	2.92	8.98	Other samples taken
		3.40	8.06	Fined £5.
June	3	2.77	9.23	Fined £2.
		2.70	9.26	Fined £2.
		2.15	9.46	Fined £5.
July	—	—	—	—
Aug.	1	2.75	8.89	Fined £1.
Sept.	1	3.20	8.45	Other samples taken and found genuine.
Oct.	1	3.40	7.38	Fined £7.
Nov.	1	2.65	9.24	Case dismissed.
Dec.	—	—	—	—

MILK SUPPLY.

88 samples were collected from the milk supplied to the Borough and examined for tubercle bacilli by the inoculation test at the Public Health Laboratory, Manchester. Tubercle Bacilli were found to be present in two of the samples.

5 special samples were also taken on various farms from special cows in order to decide as to the nature of abnormal udder conditions, tubercle bacilli being found in 2 of the 5 samples.

MEAT INSPECTION.

During the year this work has been carried out by Mr. Goodman, the Assistant Meat Inspector.

A total number of 14,757 beasts, calves and pigs were slaughtered during 1916, of which 246 were tuberculous, or a percentage of 1.6.

Of the above-named 246 tuberculous carcasses, 15, or 6.1 per cent., were totally rejected; 140, or 56.9 per cent., were cows, and 5 of these, or 3.5 per cent., were rejected.

241 of the 246 tuberculous animals were affected with Tuberculosis of the Lungs.

In Table XVIII. it will be seen that of the 2,565 cows slaughtered at the Abattoir, 13 had tuberculous udders, and that 6 of these were supplying milk at the time of slaughter.

No private slaughter-house was closed during the year: there are now 10 private slaughter-houses in Blackburn.

During 1915, 1,438 diseased carcasses were examined at the Public Abattoir and Private Slaughter-houses in the Borough, 197 of which were rejected and destroyed as unfit for human food.

During the year, 8,153 lbs. of unsound meat, 168 rabbits, and a large quantity of fish were also destroyed.

The total weight of the rejected carcasses, organs, meat, &c. (excluding fish) destroyed during the year was 24 tons 15 cwt. 2 qrs.

TABLE XVII.
Number of Animals Slaughtered at the
Public Abattoir.

1916.	Beasts.	Sheep.	Calves.	Pigs.	Goats.
January	653	3623	189	506	...
February	648	3305	194	621	...
March	805	3695	354	545	...
April.....	612	2889	305	335	...
May	530	2913	123	250	...
June	571	4350	68	289	...
July	409	3707	116	241	...
August	500	3765	138	249	...
September	497	4754	189	242	...
October	559	3680	250	375	...
November	739	3372	334	555	...
December.....	580	3164	186	1000	...
Totals	7103	43622	2446	5208	...

TABLE XIX.

Diseased Carcases Examined, Rejected and Destroyed
for Diseases, Etc., other than Tuberculosis.

BEEF.	MUTTON.	VEAL.	PORK.
2 Anthrax	3 Ascites	29 Immature	3 Asphyxia
1 Asphyxia	28 Asphyxia	13 Joint-Ill	1 Icterus
3 Staggers	7 Emaciation	3 Jaundice	2 Congested and Ill Bled
3 Septicæmia	11 Ill Bled	12 Unmarketable	3 Peritonitis
4 Septic Metritis	3 Jaundice	4 Navel Ill	2 Rachitis
1 Extensively Bruised	6 Parturition	1 Congestion of Lungs	1 Pneumonia
1 Black Quarter	8 Unmarketable	5 Congested and Ill Bled	1 Congestion of Lungs
1 Parturition	4 Anasarca	2 Conditions incidental to Overfeeding	
1 Congested & ill Bled	1 Extensively Bruised	1 Septicæmia	
1 Rheumatism	5 Congestion of Lungs	3 Nephritis	
2 Dropsy	2 Arthritis	1 Enteritis	
	2 Nephritis	1 Asphyxia	
	9 Parasitic Disease of Lungs and Liver		
Totals 20	89	60	13

DISEASED ORGANS, &c., REJECTED AND DESTROYED.

1916	Heads.	Sets of Lungs.	Hearts.	Diaphragms.	Livers.	Stomachs	Spleens	Kidneys	Udders.	Intestines	Testicles.	Bones.
For Tuberculosis ...	151	231	12	109	126	9	1	8	13	10	...	...
For Diseases other than Tuberculosis ...	2	77	1	...	871	22	...	7	24	6	...	...
Totals ...	153	308	13	109	997	31	1	15	37	16	...	...

FISH EXAMINED, REJECTED AND DESTROYED.

1916	Fish.								
	Boxes	Barrels	Bags	Kits	Mussels	Cockles	Pots of Shrimps	Lbs. of Fish	Tins of Prawns
Totals	22½	4	½	...	...	...	...	...	...

RABBITS, POULTRY, TINNED FOODS, FRUIT, ETC.,
EXAMINED, REJECTED AND DESTROYED.

Rabbits	Bags of Offal.	Barrels of Udders.	Bags of Feet	Boxes of Ox Kidney
168	13	2	4	1

DESTRUCTION OF FRUIT, ETC.

5 $\frac{3}{4}$ cwt. Tomatoes.

1 cwt. Blackberries.

13 cwt. Pears.

NUMBER OF ANIMALS INSPECTED IN PRIVATE SLAUGHTER
HOUSES.

Beasts	Sheep	Calves	Pigs
2,359	13,805	823	7

NUMBER OF VISITS PAID BY MEAT INSPECTOR, 1916.

Butchers' Shops, &c.	3,408
Private Slaughterhouses	1,196
Meat Market	275
Fish Market	302
Railway Station	158
Total	<hr/> 5,339

CONTAGIOUS DISEASES OF ANIMALS ACTS AND ORDERS MADE THEREUNDER.

ANTHRAX.

No cases of this disease occurred during the year.

The following figures show the cases of Anthrax discovered and reported in Blackburn during the last 10 years :

Years.	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916
Blackburn Cases	3	0	0	0	1	0	0	1	0	0
Outside Cases (Introduced)	9	0	5	2	1	1	2	0	1	0
Totals.....	12	0	5	2	2	1	2	1	1	0

No case of Glanders, Foot and Mouth Disease, or Swine Fever occurred in the Borough during the year.

PARASITIC MANGE.

2 cases of this disease were discovered. The animals were isolated until cured.

SHEEP DIPPING.

59 Sheep were dipped during the year in accordance with the Sheep Dipping Order.

CATTLE MARKET.

The Cattle Market has been regularly cleansed and disinfected in accordance with the provisions of the Markets

and Sales Order of 1910, after each of the two markets held weekly.

Approximate number of animals exhibited for sale in the Cattle and Pig Markets :—

Year.	Cattle.	Horses.	Sheep.	Calves.	Pigs.
1916 ...	4,045 ...	2 ...	126 ...	2,039 ...	98

The figures for the 7 preceding years are :—

Year.	Cattle.	Horses.	Sheep.	Pigs.
1915 ...	5939 ...	2 ...	126 ...	98
1914 ...	6314 ...	29 ...	420 ...	36
1913 ...	6174 ...	97 ...	358 ...	42
1912 ...	4724 ...	191 ...	399 ...	11
1911 ...	7476 ...	191 ...	893 ...	40
1910 ...	7697 ...	151 ...	544 ...	18
1909 ...	7550 ...	150 ...	1851 ...	39

THE DESTRUCTIVE INSECTS AND PESTS ACTS 1877 AND 1907, AND THE ORDERS OF THE BOARD OF AGRICULTURE AND FISHERIES OF 1912 AND 1914 AS REGARDS THE WART DISEASE AND THE CORKY SCAB DISEASE OF POTATOES.

The following work has been carried out in this connection :—

239 visits were paid to gardens in the Borough, and Wart Disease was found to exist in five gardens. The necessary steps were taken to prevent the spread of the Disease.

AMERICAN GOOSEBERRY MILDEW (FRUIT) ORDER, 1912.

237 visits were paid to Green Grocers during the season. No Gooseberry Mildew was discovered.

Section VI.

GENERAL SANITARY WORK

HOUSE DRAINAGE.

During the year, 185 drains were inspected, necessitating 378 applications of the smoke test and 291 of the water test.

In 122 instances drains were found defective at these inspections, and there were also 27 defective drains remaining over from last year's inspections to be dealt with.

In 135 instances the defects in the drains have been remedied, and thus in 14 cases the work for remedying the defective drainage had not been completed at the end of the year.

During the inspection of and testing the drains, 1,274 visits were made.

The following statement shows in detail the drainage work which has been carried out during the year 1916 :—

No. of Drains inspected	185
„ „ tested on account of Typhoid Fever	15
„ „ tested on account of Diphtheria ...	49
„ „ tested owing to Complaints	50
„ „ tested at the request of owners or New Tenants	32
„ „ tested owing to other causes	39
„ Letters from the Medical Officer of Health..	73

No. of Preliminary Notices served	9
„ Legal Notices served	4
„ Cases in which work was carried out by verbal arrangement	30
„ Visits to work in progress	1274
„ Drains tested (a) smoke	378
„ „ (b) water	291
„ „ examined by breaking down	133
„ „ tested for leakage with coloured solution	150
„ „ found defective	122
„ „ found not defective	63
„ „ Re-laid throughout & stood the water test	83
„ „ Partly re-laid and stood the water test (short lengths)	23
„ „ Partly re-laid and stood the smoke test (short length)	29
„ „ Opened and cleansed (not -relaid)	20
„ Defective gully traps replaced	130
„ New lip-dishstones provided	134
„ Inspection chambers provided	14
„ Slop-water closet drains opened & cleansed	8
„ Downspouts repaired	39
„ Soil-pipes replaced or repaired	11
„ Pail-closets converted to w.c.'s	1
„ Sink waste-pipes repaired	45
„ Useless drains removed from cellar premises	5
„ Slop-water closets converted to pedestal wash-down closets	2

No.	of Flushing apparatus repaired and new cisterns provided	23
,,	New wash-down pedestals provided	10
,,	General repairs (doors, etc.)	20

TYPE OF SANITARY CONVENIENCES.

There can be no doubt that any form of sanitary convenience other than the fresh-water closet is extremely objectionable in a large town, and the question of the general adoption of the water-carriage system throughout the Borough has been under the consideration of the Health Committee. The war has, however, prevented any further action in the matter.

18 pail closets and 5 slop-water closets have been converted to fresh-water closets during the year.

The number of the various types of sanitary conveniences in the Borough at the end of 1916 was, approximately, as follows :—

No. of Privy Middens (fixed receptacles)	128
„ „ Pail and Tub Closets	9677
„ „ Slop-water Closets	2732
„ „ Fresh-water Closets	22687

SCAVENGING.

In my previous reports stress has been laid on the importance of a frequent and regular removal from the neighbourhood of dwellings of all forms of refuse.

The chief sources of danger are the large insanitary ashpit and the unsatisfactory ashtub. On account of the large size of the ashpit the tendency is to remove its contents at somewhat infrequent intervals, and its structure is such

that the walls become impregnated with organic matter and are difficult to cleanse. The removal of the contents generally involves its being tipped on the back road or elsewhere previous to being placed in the scavenging cart.

The large ashtub is almost as objectionable, as the woodwork becomes saturated with filth and, on account of the weight of these large tubs, it is necessary, as in the case of the ashpit, to deposit the contents on the road or pathway before being placed in the scavenging cart.

The following statement represents the work carried out in this branch of sanitation during 1916 by the Cleansing Department :—

Excreta Tubs Emptied	522,972
Excreta Tubs Cleansed	493,134
Ashes Tubs Emptied	403,126
Dry Ashpits Emptied	155,248
Wet Ashpits Emptied	171

4,350 Loads of Dry Ashes Refuse and 33 Loads of Midden Refuse were tipped during the year.

The Refuse during 1916 was destroyed at the following Destructors :—

AUDLEY DESTRUCTOR—

	Tons.	Cwts.	Qrs.
Dry Ashes Refuse	6217	10	1
Midden Refuse	32	18	2
Fish and Market Refuse, Diseased Carcases, &c. ...	943	15	3
	<hr/>	<hr/>	<hr/>
Total	7194	4	2

GREENBANK DESTROYER—

	Tons.	Cwts.	Qrs.
Dry Ashes Refuse	9655	14	0
Midden Refuse	5	5	1
Fish and Market Refuse	108	0	0
	—	—	—
Total	9768	19	1

WENSLEY FOLD DESTROYER—

	Tons.	Cwts.	Qrs.
Dry Ashes Refuse	5216	8	2
Midden Refuse	2	2	1
Fish and Market Refuse	86	5	0
	—	—	—
Total	5304	15	3

STORE YARD DESTROYER—

	Tons.	Cwts.	Qrs.
Dry Ashes Refuse	1923	16	0

HOUSING AND TOWN PLANNING ACT, 1909.

The following Table gives a summary of the work carried out in this direction.

On account of a considerable reduction in staff this work has had to be somewhat curtailed and is directed chiefly to the worst property.

TABLE XX.

Inspection of Dwelling-houses.

District.....	1	2	3	4	Total.
Number of Houses inspected during the year	123	25	103	110	361
Number of Houses found satisfactory	81	14	55	32	182
Number of Houses not kept in a reasonable condition, concerning which notices have been served ...	42	11	48	78	179
Number of Houses reported for visiting by the Health Sub-Committee	2	...	..	...	2
Number of Houses in which the ordered work has not been complied with, to be followed up under Sect. 91 P.H.A. 1875 .....	...	..	...	...	...
Number of houses in which the ordered work is completed	21	5	48	69	143
Number of Houses in which the ordered work is in course of progress	19	6	0	9	34
Number of Houses closed as unfit for human habitation .....	...	...	...	...	...
Number of Houses visited by the Health Sub-Committee .....	...	...	...	...	...
Number of Houses ordered to be altered to the satisfaction of M.O.H. or closed .....	...	...	...	...	...
Number of houses ordered to be demolished.....	...	...	...	...	...
Number of inspected Houses found to be overcrowded.....	...	...	...	...	...

INHABITED VANS.

The number of these dwellings visiting the Borough has been considerably less than in previous years. 30 inspections have been made and constant supervision kept over them while in the Borough.

The general cleanliness of the vans and their surroundings has been well maintained.

HOUSES LET IN LODGINGS.

There are 67 of these tenements on the register, containing 296 rooms and providing living and sleeping accommodation for 653 adults and 119 children.

They have been kept under regular inspection, 3,229 visits having been paid during the year.

The Bye-laws have been fairly well complied with.

COMMON LODGING HOUSES.

There are 22 houses on the register, accommodating 1,009 adults and 15 children.

These houses have been visited frequently and regularly, 848 visits having been paid to them during the year. They have been found clean and in good order. Half the accommodation has not been required during the year.

The following is a list of the Common Lodging-Houses in the Borough at the present time :—

<i>Situation of Premises.</i>	<i>No. of Rooms.</i>	<i>Accommodation.</i>
19 Larkhill Street	41	314 adults
66 Moor Street	20	92 „
3 Syke Street	8	66 „
8 Mount Pleasant	8	65 „
7 and 9 Daisy Street	2	37 „
104 Mary Ann Street	5	37 „
56 Chapel Street	6	36 „
74 Chapel Street	5	36 „
39 Tontine Street	4	27 „
13 Birley Street	5	25 „
59 Water Street	5	25 „ and 2 children
33 Joiners Row	6	33 „
26 and 28 Penny Street	10	33 „ „ 9 children
54 Syke Street	6	28 „ „ 1 child
83 Moor Street	5	21 „
13 Grimshaw Park	3	18 „
26 Bradshaw Street	3	18 „ „ 2 children
33 Larkhill Street	3	16 „
8 Cowell Street	2	16 „ „ 1 child
47 Nab Lane	2	8 „
49 „ „	2	12 „
15 Bent Street	3	25 „

CANAL BOATS ACTS, 1884 & 1887.

In compliance with these Acts and with the regulations of the Local Government Board, the Canal has been visited, and 101 boats have been inspected during the year.

Four infringements of the Acts were detected, namely :—

Three masters without certificates.

One boat in a leaky condition.

Four notices have been served notifying the owners of the infringements, and the necessary work has been carried out.

No case of infectious disease has been met with, and there has been no detention of boats for cleansing or disinfection.

Four new boats have been registered. One boat has been re-registered through change of number.

There are 61 boats, which are in use or available, on the register. 19 boats on the register have not been seen here for some time and cannot be traced.

In the 101 boats there were met with 165 males, 39 females, and 23 children. Twelve of the children were under school age. Ten of the children of school age were on holiday and one absent through sickness.

OFFENSIVE TRADES.

There are 13 establishments in the Borough in which offensive trades are carried on :—

Tripe-boiling	5
Fat-melting	4
Gut-scraping	2
Horse slaughtering, &c.	2
	—
	13

150 visits of inspection have been paid to these premises.

'SMOKE OBSERVATIONS.

122 observations of one hour's duration were made of the various chimneys in the Borough. In 7 instances the time limit for black smoke fixed by the Town Council was exceeded and notices served on the occupier.

NUISANCES.

213 formal complaints have been received from the public during the year, as compared with 283 the previous year, and 249 visits were paid for the purpose of investigating the same. Necessary steps were taken for the abatement of the nuisances.

Table XXI.

Description of Notices Issued and Nuisances Remedied.

District—	1	2	3	4	D.I.	Total
Preliminary Notices served	164	202	201	226	9	802
Legal „ „	13	5	19	16	4	57
Letters from M.O.H....	...	4	...	3	73	80
Examination of Drains—						
By Water.....	...	...	...	...	291	291
„ Smoke .....	...	...	...	...	378	378
„ Coloured water for leakages.....	...	...	...	...	150	150
„ Breaking down .....	...	...	...	...	133	133
Nuisances remedied from—						
Defective Drains	10	15	12	17	135	189
Choked „	18	51	60	103	8	240
Defective Water Closets	9	28	29	6	...	72
„ Pail „	1	10	3	16	...	30
„ Slop Water Closets	6	5	1	2	8	22
„ Trapped Gullies.....	26	21	...	2	130	179
„ Sink Waste Pipes	7	24	10	19	45	105
„ W.C. Cisterns and Flushing						
Fittings	27	33	8	52	23	143
„ Easing Troughs and Down						
Spouts.....	5	64	29	23	39	160
„ Soil Pipes .....	...	2	...	...	11	13
„ Gully Dishstones .....	...	4	2	...	134	140
Improper Drainage .....	...	...	...	...	...	...
Inspection Chambers provided.....	...	...	...	...	14	14
Sink pipes connected to drain .....	...	...	...	...	...	...
Yards unflagged .....	...	2	2	...	22	26
Cellars „ .....	...	...	...	...	...	...
Yards badly paved or flagged	2	9	5	1	113	130
Houses overcrowded .....	...	3	...	...	...	3
Houses in filthy state	6	3	2	13	...	24
Yards, Closets, and Cellar Areas in a						
filthy state	31	43	19	34	...	127
Damp and defective house walls, roofs, etc.	22	53	10	85	...	170
Defective Window Frame, Sash Cords, &c.	1	19	1	...	...	21
Insufficient Ventilation of Rooms	8	...	5	48	...	61
Defective Manure Middensteads	2	1	1	...	...	4
Accumulations of Manure	396	356	768	689	...	2209
„ Offensive Matter	5	32	3	2	...	42
„ Stagnant Water .....	...	4	...	...	...	4
Dwelling-houses whitewashed.....	15	57	42	134	...	248
Poultry and Erections in yards removed ...	7	1	4	1	...	13
Low Chimneys raised.....	...	...	1	...	...	1
Ash Tubs provided or repaired	2	2	29	28	...	59
Ash Pits and Pail Receptacles repaired	12	16	56	23	...	107
Metal Ash Bins provided	3	20	24	12	...	59
Street Gullies, Ash Pits, &c., reported to						
Cleansing Department .....	...	105	9	129	...	243
Pail Closets converted to Fresh Water						
Closets .....	...	...	...	...	...	...
Slop-water Closets converted to Fresh						
Water Closets.....	...	...	...	...	...	...

Table XXII.

Summary of Visits paid by Sanitary Inspectors.

District—	1	2	3	4	D.I.	TOTAL
Common Lodging Houses	...	207	106	535	...	848
Houses let in Lodgings ...	521	290	390	2031	...	3232
Common Yards, Back Roads and Passages ...	2591	2156	3129	2775	...	10651
Infected Houses	127	72	118	66	...	383
Work in Progress	734	674	1034	957	1274	4673
Inspection of Dwelling- houses	492	552	1052	629	...	2725
Horse-Manure Middens	543	437	769	776	...	2525
Cowsheds and Dairies ...	63	9	20	41	...	133
Miscellaneous.....	75	144	3	167	...	389
Investigation of Nuisances	94	62	35	58	...	249
Smoke Observations .....	...	...	...	...	...	...
Chip Potato Shops	320	43	373	233	...	969
Fishmongers and Greengrocers.....	180	62	310	163	...	715
Schools .....	...	21	...	...	...	21
Investigation of Infec- tious Diseases	182	339	507	269	...	1297

Section VII.

METEOROLOGICAL OBSERVATIONS.

Mean monthly reading of the Barometer—29·874"

Highest daily reading of the Barometer—30·543"
on January 31st.

Lowest daily reading of the Barometer—28·731"
on November 5th.

Highest reading of the Maximum Thermometer—75·2
on July 25th.

Lowest reading of the Minimum Thermometer—24°·0
on March 23rd.

Total rainfall during the year—45·251 inches.

Number of days during the year on which rain fell—241.
Twelve days of which the fall was less than ·005 of an inch.

The greatest number of days on which rain fell in one month—
26 in October.

The highest reading of the 4ft. Thermometer during the
year—57° 1 on August 17th.

The greatest amount of bright sunshine in one month—
174 hours, 15 minutes, in August.

The least amount of bright sunshine in one month—
29 hours, 35 minutes, in December.

Number of days during the year without any bright sun-
shine—101.

SUMMARY OF WIND RECORDS

For the Year 1916.

Number of days during the year on which the prevailing wind was—

N.	N.E.	E	S.E.	S.	S.W.	W.	N.W.
11	18	64	18	73	45	121	16

The total number of miles registered by Anemometer during the year was—64,422.

The greatest number of miles registered during one day was—580 on January 1st.

The least number of miles registered during one day was—5 on December 6th.

Table XXIII.—Meteorological Report for the Year 1916.

1916	Mean Pressure		Mean Relative Humidity.	Mean of Maximum and Minimum Temperature.	Mean Temperature at 9 a.m. Readings	Under-ground Temperature		Mean Black Bulb in Vacuo.	Mean Bright Bulb in Vacuo.	Absolute extremes of Temperature.				Mean daily minimum on the grass.	Mean depression of minimum on grass below minimum in the shade.	Total bright sunshine.	Most sunshine in one day.		Direction of the Wind.							Mean daily movement of wind.	Total rainfall.		
	Station Level.	Sea Level.				Highest.	Lowest.			Date.	Date.	Am't.	Date				N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.					
January ..	29.726	30.078	91.8	43.55	43.4	42.4	42.7	deg.	60.7	50.8	55.5	6th	30.0	14th 21st	35.7	3.6	33—5	5—45	13th	0	0	0	0	9	9	12	1	282.2	6.507
February	29.389	29.750	87.9	36.90	36.2	38.7	42.0	deg.	64.7	47.8	50.2	15th	29.5	23rd 27th	29.1	3.9	58—18	7—35	24th	0	1	8	1	6	3	9	1	239.5	4.040
March ...	29.401	29.765	86.8	36.15	36.5	37.1	39.5	deg.	70.7	50.0	54.0	31st	24.0	23rd	28.0	4.0	53—0	8—0	4th	1	3	19	0	0	3	5	0	234.2	1.970
April	29.550	29.896	84.0	44.65	45.2	43.5	42.1	deg.	93.5	65.6	67.5	26th	32.0	7th	33.6	4.4	147—10	11—20	29th	1	1	4	1	5	4	12	2	178.5	3.770
May	29.593	29.928	73.9	50.15	52.9	50.4	47.0	deg.	96.6	72.3	74.5	19th	32.5	4th	37.8	5.0	170—35	13—30	29th	1	0	5	1	13	5	6	0	140.6	2.877
June	29.575	29.912	77.5	51.00	52.0	53.9	50.7	deg.	103.2	73.8	66.5	23rd	36.5	17th	40.6	4.4	145—15	14—5	16th	3	0	5	1	5	5	11	0	128.8	2.975
July	29.717	30.044	81.9	57.20	58.4	57.4	53.0	deg.	104.0	78.2	75.2	25th	44.2	6th	47.1	4.3	146—13	12—55	28th	0	0	4	1	3	2	20	1	109.6	3.120
August ...	29.632	29.951	80.7	59.30	60.4	59.9	56.6	deg.	108.1	79.0	73.8	11th	45.0	31st	47.0	5.6	174—15	12—15	6th	0	4	3	1	1	8	12	2	81.6	3.665
September	29.713	30.047	80.3	53.90	54.6	55.5	55.3	deg.	90.7	69.2	69.2	7th	39.5	14th	42.0	5.5	101—31	10—25	1st	4	2	6	1	4	1	8	4	118.0	3.010
October...	29.408	29.750	85.0	48.80	49.4	51.1	52.6	deg.	76.4	59.8	64.1	6th	34.5	16th	39.0	4.3	60—35	7—50	9th	0	0	3	6	6	4	10	2	248.0	8.940
November	29.475	29.756	86.6	43.40	43.3	45.2	48.3	deg.	67.2	51.0	56.2	10th	30.2	28th	34.3	4.9	40—48	6—5	17th	0	0	3	5	13	0	8	1	225.6	3.307
December	29.257	29.619	89.0	35.85	35.3	38.5	43.3	deg.	55.2	42.3	49.0	28th	26.2	20th	26.2	5.6	29—35	5—20	4th	1	7	4	0	8	1	8	2	127.0	4.070

LOCAL GOVERNMENT BOARD.

APPENDIX.—TABLE I.—Vital Statistics of Whole District during 1916 and Previous Years.

Name of District: BLACKBURN.

YEAR.	Population estimated to Middle of each Year	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS.†		NETT DEATHS BELONGING TO THE DISTRICT.				
		Un-corrected Number.	Nett.		Number.*	Rate.	of Non-residents registered in the District. †	of Residents not registered in the District. †	Under 1 Year of Age.			At all Ages.	
			Number. †	Rate.					Number.*	Rate per 1,000 Nett Births.	Number.*	Rate.	
I	2	3	4	5	6	7	8	9	10	11	12	13	
1910	132760	2948		22.2	2075	15.6	159	33	401	136.0	1949	14.6	
1911	133149	2857		21.4	2242	16.8	123	30	534	186.9	2149	16.1	
1912	133539	2741	2737	20.4	1988	14.8	118	58	327	119.4	1928	14.4	
1913	133931	2923	2915	21.7	2205	16.4	147	61	431	147.8	2119	15.8	
1914	134323	2814	2805	20.8	2080	15.4	141	67	326	116.2	2006	14.9	
1915	127443	2456	2452	19.2	2184	17.2	164	42	357	145.6	2062	16.1	
1916	121066	2067	2065	15.6	1875	15.4	154	58	250	121.0	1779	14.6	

Cases of Infectious Disease notified during the Year 1916.

NOTIFIABLE DISEASE.	Cases notified in whole District.							Total Cases notified in each Locality.												Total Cases removed to Hospital.			
	At Ages—Years.							St. Stephen's	Trinity	St. Michael's	St. John's	St. Silas'	St. Paul's	St. Peter's	St. Mary's	St. Matthew's	St. Thomas'	Park	St. Luke's		St. Mark's	St. Andrew's	
	At all Ages	Under 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65																65 and upwards
Small-pox .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cholera .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria (including Membranous Group)	52	1	22	21	5	3	...	...	...	...	...	...	9	8	5	3	2	4	...	...	3	4	32
Erysipelas	66	...	...	1	4	13	39	9	7	2	...	5	3	...	5	1	4	26	4	...	4	5	...
Scarlet Fever.....	153	...	49	88	12	3	1	...	14	8	22	11	17	14	5	6	2	9	10	4	9	22	101
Typhus Fever ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever ..	14	...	...	5	4	4	1	...	2	...	...	1	...	4	...	3	...	1	2	1	...	...	12
Puerperal Fever ..	5	...	...	...	2	3	...	...	...	...	...	...	...	1	...	1	...	...	1	...	1	...	...
Cerebro-spinal Meningitis	2	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Poliomyelitis	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	1	...
Ophthalmia Neonatorum	15	15	...	...	...	...	...	...	1	1	1	...	...	1	3	1	...	1	1	2	2	1	...
Pulmonary Tuberculosis.....	154	...	5	15	28	65	34	7	6	6	14	9	6	9	12	18	12	24	5	11	10	12	99
Other forms of Tuberculosis	49	2	6	74	6	7	4	...	3	1	6	4	3	6	3	2	6	1	3	6	1	4	...
Measles—Notified by Doctor	495	31	244	209	10	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
" other persons	586	12	131	443	...	...	...	...	71	56	74	71	113	139	56	45	45	58	99	62	138	54	...
TOTALS	1592	62	458	807	71	98	80	16	07	78	118	101	151	182	89	80	72	124	132	86	168	104	...

APPENDIX. TABLE III. Deaths registered during the Calendar Year 1916 classified by age and cause. Name of District: BLACKBURN.

NAME OF DISTRICT: BLACKBURN.

(See Notes at back.)

Net Deaths at the subdivided ages of "Residents," whether occurring within or without the District (a).									
CAUSES OF DEATH.	All Ages.	Under 1 year	1 and under 2 years.	2 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.	65 and upwards.
I	2	3	4	5	6	7	8	9	10
All causes { Certified (c) ... Uncertified ... }	1767 12	243 7	60 1	77 ...	58 ...	65 ...	204 ...	498 2	562 2
Enteric Fever	2	...	...	...	...	...	2	...	2
Small Pox ... ..	...	...	...	...	...	...	...	...	...
Measles	14	4	6	3	1	...	...	...	...
Scarlet Fever	4	...	...	2	2	...	...	...	2
Whooping Cough	7	3	3	1	...	...	...	...	...
Diphtheria and Group	9	...	...	8	1	...	...	...	...
Influenza	25	...	1	...	1	..	5	10	1
Erysipelas	2	...	...	...	...	...	...	1	2
Phthisis (Pulmonary Tuberculosis)	115	...	...	1	5	20	55	33	46
Tuberculous Meningitis	7	1	1	3	2	...	...	...	1
Other Tuberculous Diseases	22	3	1	3	2	8	2	3	6
Cancer, malignant disease	136	...	...	...	1	..	14	77	39
Rheumatic Fever	10	...	...	...	2	2	2	1	4
Meningitis (See note d)	23	5	2	7	6	1	...	2	...
Organic Heart Disease	257	...	1	1	6	5	25	98	48
Bronchitis	220	28	11	7	1	2	8	57	41
Pneumonia (all forms)	162	29	21	11	7	2	17	45	17
Other diseases of Respiratory organs	30	...	1	1	...	1	4	15	17
Diarrhoea and Enteritis. (See note e)	29	21	1	4	...	1	1	1	3
Appendicitis and Typhlitis	7	...	...	...	1	2	3	1	12
Cirrhosis of Liver	7	...	...	...	...	...	1	2	1
Alcoholism	4	...	...	...	...	...	2	2	1
Nephritis and Bright's Disease	44	...	...	...	2	2	6	20	5
Puerperal Fever	4	...	...	...	...	2	2	...	...
Other accidents and diseases of Pregnancy and Parturition	4	.	...	...	...	2	2	...	2
Congenital Debility and Malformation, including Premature Birth	110	108	2	...	...	...	...	...	9
Violent Deaths, excluding Suicide	47	2	...	8	12	1	6	9	31
Suicides	25	...	...	...	...	1	8	9	7
Other Defined Diseases	419	42	7	16	6	13	38	98	159
Diseases ill-defined or unknown...	34	4	3	1	...	...	1	16	4
Totals	1779	250	61	77	58	65	204	500	564
462	...	...	...	...	...	...	...	...	...
Sub-Entries included in above Figures:—									
Cerebro-spinal Meningitis	1	...	...	1	...	...	...	...	...
Poliomyelitis	1	1	..	...	...	...	...	...	...

NOTES TO TABLE III.

The classification and numbering of Causes of Death are those of the "Short List" on page XXV. of the Manual of the International List of Causes of Death, which should be consulted and followed in all cases of doubt.

Copies of this Manual were distributed to Medical Officers of Health in 1912 by the Registrar-General, and may be purchased either directly or through any bookseller from Wyman & Sons, Ltd., 29, Breems Buildings, Fetter Lane, E.C., price 1/-.

(a) All "Transferable Deaths" of residents, *i.e.*, of persons resident in the District who have died outside it, are to be *included* with the other deaths in columns 2-10. Transferable deaths of non-residents, *i.e.*, of persons resident elsewhere in England and Wales who died in the District, are in like manner to be *excluded* from these columns. For the precise meaning of the term "transferable deaths" *see* footnote to Table I.

The total deaths in column 2 of Table III. should equal the figures for the year in column 12 of Table I.

(b) All deaths occurring in institutions for the sick and infirm situated within the district, whether of residents or of non-residents, are to be entered in the last column of Table III.

(c) All deaths certified by registered Medical Practitioners and all Inquest cases are to be classed as "Certified"; all other deaths are to be regarded as "Uncertified."

(d) Exclusive of "Tuberculous Meningitis" (10), but inclusive of Cerebro-spinal Meningitis.

(e) Title 19 should be used for deaths from Diarrhoea and Enteritis at all ages. (In the "Short List" deaths from Diarrhoea and Enteritis under 2 years are included under Title 19; those at 2 years and over being placed under Title 28.)

N.B.—Deaths of soldiers and sailors occurring in hospitals and institutions in the district are to be excluded from the total number of deaths registered in the district, and such deaths should in like manner be excluded from column 11 of Table III.

APPENDIX.—TABLE IV.

Deaths under One Year, arranged according to Days, Weeks and Months.

CAUSES OF DEATH.	1st day.	2nd day.	3rd day.	4th day.	5th day.	6th day.	7th day.	1st week.	2nd Week	3rd week.	4th week.	Under 1 month.	1 month to 2.	2 months to 3.	3 months to 4.	4 months to 5.	5 months to 6.	6 months to 7.	7 months to 8.	8 months to 9.	9 months to 10.	10 months to 11.	11 months to 12.	TOTAL.
All causes—(Certified)	39	14	7	2	...	2	1	55	14	19	14	102	27	10	9	18	6	10	12	16	7	12	14	243
(Uncertified	5	...	...	...	...	...	...	5	1	...	...	6	...	...	...	...	...	1	...	...	...	...	...	7
Smallpox .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chicken-pox .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	2	...	4
Scarlet Fever.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Whooping-cough.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	1	...	...	3
Diphtheria and Croup. ....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculous Meningitis.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
Abdominal Tuberculosis.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	1	3
Other Tuberculous Disease.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Meningitis (not Tuberculous).....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	1	1	...	...	...	5
Convulsions	1	2	...	...	...	...	...	3	1	2	...	6	2	1	...	2	...	3	...	1	...	1	1	17
Laryngitis.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Bronchitis.....	...	...	...	...	...	...	...	...	...	...	...	...	5	1	2	4	...	3	3	5	1	2	2	28
Pneumonia (all forms).....	...	...	...	...	...	...	...	...	1	...	...	1	1	2	1	...	...	5	6	2	3	7	29	
Diarrhoea .....	...	...	...	...	...	...	...	...	...	1	...	1	6	...	1	2	...	1	...	...	...	...	...	11
Enteritis .....	...	...	...	...	...	...	...	...	...	2	...	2	2	3	...	...	1	...	1	...	1	...	...	10
Gastritis .....	...	...	...	...	...	...	...	...	...	...	2	2	...	...	...	1	...	...	...	...	...	...	1	4
Syphilis.....	...	...	...	...	...	...	...	...	...	...	1	1	...	1	...	...	...	...	...	...	...	...	...	2
Rickets.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Suffocation, overlying.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Injury at birth .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Atelectasis	6	...	...	...	...	...	...	6	...	1	...	7	...	...	...	...	...	...	...	...	...	...	...	7
Congenital Malformations ..	1	3	...	...	...	1	...	5	1	2	...	8	...	...	1	1	...	...	1	...	...	...	1	12
Premature birth.....	24	8	5	1	...	...	1	39	8	5	6	58	4	...	...	...	...	...	...	...	...	...	...	62
Atrophy, Debility and Marasmus.....	1	1	2	1	...	1	...	6	4	3	3	16	6	1	3	4	2	...	...	1	...	1	...	34
Other causes	1	...	...	...	...	...	...	1	...	3	2	6	1	1	...	...	1	1	...	2	2	3	...	17
TOTAL	34	14	7	2	...	2	1	60	15	19	14	108	27	10	9	18	6	11	12	16	7	12	14	250

Nett Births registered during the calendar year
legitimate..... 1977
illegitimate 88

Nett Deaths registered during the calendar year of
legitimate infants..... 233
illegitimate infants 17

